

# AUDIT REPORT

2023



**ANALYTIX  
AUDIT**

## Security Assessment **Happy Train Token**

September 21, 2023

Audit Status: Pass

Audit Edition: Advance
















# Risk Analysis

## Classifications of Manual Risk Results

Classification	Description
 Critical	Danger or Potential Problems.
 Major	Be Careful
 Minor	Pass, Not-Detected or Safe Item.
 Informational	Function Detected

## Manual Code Review Risk Results

Contract Priviledge	Description
 Can mint?	Pass
 Edit taxes over 25%?	Pass
 Max Tx?	Pass
 Max Wallet?	Pass
 Has to enable trading?	trading is already enabled.
 Modify Tax	Pass
 Can blacklist?	Pass
 Is Honeypot?	Liquidity has not been added
 Trading Cooldown	Not Detected
 Can Pause Trade?	Pass
 Pause Transfer?	Not Detected





Contract Priviledge	Description
● Is Proxy??	Not Detected
● Is Anti Whale?	Not Detected
● Is Anti Bot?	Not Detected
● Is Blacklist?	Not Detected
● Blacklist Check	Pass
● is Whitelist?	Not Detected
● Buy Tax	1
● Sell Tax	5
● Can Take Ownership?	Not Detected
● Hidden Owner?	Not Detected
● Owner	0x1d2600B91fbEa69Bd12aFD2f3ff7ff874a33a036
● Self Destruct?	Not Detected
● Other?	Not Detected
● Other?	Not Detected
● Holders	1
● Auditor Confidence	Medium

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.



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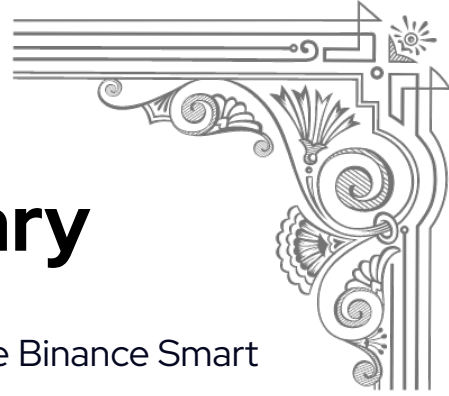
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# Assessment Summary

This report has been prepared for Happy Train Token on the Binance Smart Chain network. AnalytixAudit provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders
- Thorough line-by-line manual review of the entire codebase by industry experts.





# Project Overview

## Token Summary

Parameter	Result
Address	0x0aF2ec0957Cb0FAA0D449C6326c4dD73d78436e7
Name	Happy Train
Token Tracker	Happy Train (HTR)
Decimals	18
Supply	10,000,000,000
Platform	Binance Smart Chain
compiler	v0.8.12+commit.f00d7308
Contract Name	HappyTrainToken
Optimization	No
LicenseType	MIT
Language	Solidity
Codebase	<a href="https://bscscan.com/address/0x0aF2ec0957Cb0FAA0D449C6326c4dD73d78436e7#code">https://bscscan.com/address/0x0aF2ec0957Cb0FAA0D449C6326c4dD73d78436e7#code</a>
Payment Tx	Corporate





# Project Overview

## Simulation Summary

Parameter	Result
Transfer From Owner	Pass
Transfer From Holder	Pass
Add Liquidity	Pass
RemoveLiquidity	Pass
Buy from Owner	Pass
Buy from Holder	Pass
Sale from Owner	Pass
Sale from Holder	Pass
Remove Liquidity	Pass
SwapAndLiquify	Pass
SwapAndSale w/Fee	Pass
SwapAndSale TX	
SwapAndSaleNoFee	Pass
SwapAndSale No/Fee TX	
ExcludeFromFees	Pass
LaunchPad	PinkSale





Parameter	Result
Pool Creation	Pass
Pool Creation TX	
Pool Finalize	Pass
Pool Finalize TX	
Enable	Pass

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.







**Main Contract Assessed**  
**Contract Name**

Name	Contract	Live
Happy Train	0x0aF2ec0957Cb0FAA0D449C6326c4dD73d78436e7	Yes

**TestNet Contract was Not Assessed**

**Solidity Code Provided**

SolID	File Sha-1	FileName
HTR	9eb45379dccf041954c13960d4e559933834c11	HTR.sol
HTR		
HTR		
HTR		





# KYC Information

**The Project Owners of Happy Train is not KYC.**

KYC Information Notes:

Auditor Notes: No info founde

Project Owner Notes:





# Smart Contract Vulnerability Checks

The Smart Contract Weakness Classification Registry (SWC Registry) is an implementation of the weakness classification scheme proposed in EIP-1470. It is loosely aligned to the terminologies and structure used in the Common Weakness Enumeration (CWE) while overlaying a wide range of weakness variants that are specific to smart contracts.

ID	Severity	Name	File	location
SWC-100	Pass	Function Default Visibility	HTR.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	HTR.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	HTR.sol	L: 0 C: 0
SWC-103	Pass	A floating pragma is set.	HTR.sol	L: 0 C: 0
SWC-104	Pass	Unchecked Call Return Value.	HTR.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	HTR.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	HTR.sol	L: 0 C: 0
SWC-107	Pass	Read of persistent state following external call.	HTR.sol	L: 0 C: 0
SWC-108	Pass	State variable visibility is not set..	HTR.sol	L: 0 C: 0
SWC-109	Pass	Uninitialized Storage Pointer.	HTR.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	HTR.sol	L: 0 C: 0

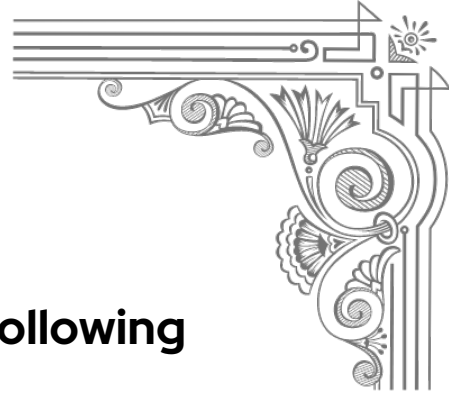


ID	Severity	Name	File	location
SWC-111	Pass	Use of Deprecated Solidity Functions.	HTR.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	HTR.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	HTR.sol	L: 0 C: 0
SWC-114	Pass	Transaction Order Dependence.	HTR.sol	L: 0 C: 0
SWC-115	Pass	Authorization through tx.origin.	HTR.sol	L: 0 C: 0
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	HTR.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	HTR.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	HTR.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	HTR.sol	L: 0 C: 0
SWC-120	Pass	Potential use of block.number as source of randommness.	HTR.sol	L: 0 C: 0
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	HTR.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	HTR.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	HTR.sol	L: 0 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	HTR.sol	L: 0 C: 0
SWC-125	Pass	Incorrect Inheritance Order.	HTR.sol	L: 0 C: 0



ID	Severity	Name	File	location
SWC-126	Pass	Insufficient Gas Griefing.	HTR.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	HTR.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	HTR.sol	L: 0 C: 0
SWC-129	Pass	Typographical Error.	HTR.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U +202E).	HTR.sol	L: 0 C: 0
SWC-131	Pass	Presence of unused variables.	HTR.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	HTR.sol	L: 0 C: 0
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	HTR.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	HTR.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/Dead Code).	HTR.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	HTR.sol	L: 0 C: 0

We scan the contract for additional security issues using MYTHX and industry-standard security scanning tools.



# Inheritance

**The contract for Happy Train has the following inheritance structure.**

**The Project has a Total Supply of 10,000,000,000**





# Smart Contract Advance Checks

ID	Severity	Name	Result	Status
HTR-01	Minor	Potential Sandwich Attacks.	Pass	Not-Found
HTR-02	Minor	Function Visibility Optimization	Pass	Not-Found
HTR-03	Minor	Lack of Input Validation.	Pass	Not-Found
HTR-04	Major	Centralized Risk In addLiquidity.	Pass	Not-Found
HTR-05	Minor	Missing Event Emission.	Pass	Not-Found
HTR-06	Minor	Conformance with Solidity Naming Conventions.	Pass	Not-Found
HTR-07	Minor	State Variables could be Declared Constant.	Pass	Not-Found
HTR-08	Minor	Dead Code Elimination.	Pass	Not-Found
HTR-09	Major	Third Party Dependencies.	Pass	Not-Found
HTR-10	Major	Initial Token Distribution.	Pass	Not-Found
HTR-11	Major	Complexity on the tax calculations.	Pass	Not-Found
HTR-12	Major	Centralization Risks In The X Role	Pass	Not-Found
HTR-13	Informational	Extra Gas Cost For User..	Pass	Not-Found
HTR-14	Medium	Unnecessary Use Of SafeMath	Pass	Not-Found
HTR-15	Medium	Symbol Length Limitation due to Solidity Naming Standards.	Pass	Not-Found



ID	Severity	Name	Result	Status
HTR-16	Medium	Invalid collection of Taxes during Transfer.	Pass	Not-Found
HTR-17	Informational	Conformance to numeric notation best practice.	Pass	Not-Found
HTR-18	Informational	Enable Trade and Exclude Exist to create a whitelist.	Pass	Not-found





# Technical Findings Summary

## Classification of Risk

Severity	Description
 Critical	Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks.
 Major	Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project.
 Medium	Risks may not pose a direct risk to users' funds, but they can affect the overall functioning of a platform
 Minor	Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions.
 Informational	Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code.

## Findings

Severity	Found	Pending	Resolved
 Critical	0	0	0
 Major	0	0	0
 Medium	0	0	0
 Minor	0	0	0
 Informational	0	0	0
Total	0	0	0





# Social Media Checks

Social Media	URL	Result
Twitter	<a href="https://twitter.com/HappyTrain_Game">https://twitter.com/HappyTrain_Game</a>	Pass
Other		Fail
Website	<a href="https://happytrain.io/">https://happytrain.io/</a>	Pass
Telegram	<a href="https://t.me/happy_train_game">https://t.me/happy_train_game</a>	Pass

We recommend to have 3 or more social media sources including a completed working websites.

**Social Media Information Notes:**

**Auditor Notes:** undefined

**Project Owner Notes:**





# Assessment Results

## Score Results

Review	Score
Overall Score	90/100
Auditor Score	90/100
Review by Section	Score
Manual Scan Score	36/53
SWC Scan Score	37 /37
Advance Check Score	17 /19

The Following Score System Has been Added to this page to help understand the value of the audit, the maximum score is 100, however to attain that value the project must pass and provide all the data needed for the assessment. Our Passing Score has been changed to 80 Points, if a project does not attain 80% is an automatic failure. Read our notes and final assessment below.

## Audit Passed





## Assessment Results

### Important Notes:

- High-Risk Issues or vulnerabilities were found.
- Always DYOR on the project itself.

**Auditor Score =90**  
**Audit Passed**

## Audit Passed

Current project reviewed successfully passed audit, meeting all requirements for approval per Analytix Audit guidelines.



@FreddyCryptos  
Founder & CEO

Today's Date  
Dubai - United Arab Emirates



# Appendix

## Finding Categories

### Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that act against the nature of decentralization, such as explicit ownership or specialized access roles in combination with a mechanism to relocate funds.

### Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimal EVM opcodes resulting in a reduction on the total gas cost of a transaction.

### Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on how block.timestamp works.

### Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functions being invoke-able by anyone under certain circumstances.

### Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that may result in a vulnerability.

### Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to make the codebase more legible and, as a result, easily maintainable.

### Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code, such as a constructor assignment imposing different requirements on the input variables than a setter function.

### Coding Best Practices

ERC 20 Coding Standards are a set of rules that each developer should follow to ensure the code meets a set of criteria and is readable by all the developers.





## Disclaimer

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